

**Seattle Public Utilities
Water System Plan 2001
SEPA Determination of Nonsignificance (DNS)**

Description of Proposal:

The proposal is referred to as the Water System Plan 2001 (WSP). It is the long-range comprehensive plan that is required by the Washington Department of Health every six years. This update maintains the policies of the 1993 Water Supply Plan and provides documentation and direction for implementing SPU's key functions. No changes to SPU's drinking water service area, sources of supply, or conservation policies are proposed in the 2001 WSP Update. There are a number of major capital projects included in the plan related to maintenance and system improvement projects including pipeline replacement, dam projects and reservoir covering. Those that have not undergone previous programmatic review are addressed in the SEPA review for the WSP. As with most of the major capital projects, these maintenance activities will generally require supplemental project-level SEPA review prior to final design and construction.

Proponent:

Seattle Public Utilities
Dexter Horton Building, 11th Floor
710 Second Avenue
Seattle, WA 98104
Attn: Judi Gladstone, (206) 684-4642

Location of Proposal, including street address, if any:

The WSP covers the entire SPU service area. See attached map.

Lead Agency:

Seattle Public Utilities (SPU), the lead agency for this proposal, has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other related documents on file with the lead agency. This information may be examined at Seattle Public Utilities offices by contacting the Project Manager listed above.

There is no comment period for this DNS.

 X This DNS is issued under 197-11-340(2); the lead agency will not act on this proposal for 14 days from the date below.

 X Comments must be submitted by August 3, 2000.

Responsible Official:

Diana Gale, Director
Seattle Public Utilities
Dexter Horton Building, 10th Floor
710 Second Avenue
Seattle, WA 98104
(206) 685-5851

Signature: _____

Diana H. Gale

Date: _____

July 15, 2000

Publication Date: July 20, 2000

X You may appeal this determination to Meredith Getches, City Hearing Examiner
at 1320 Alaska Building, 618 Second Avenue, Seattle, WA 98104
no later than August 10, 2000
by (method) In writing with a \$50 filing fee

You should be prepared to make specific factual objections.

Contact the Hearing Examiner at (206) 684-0521 to read or ask about the procedures for SEPA appeals.

There is no agency appeal.

DRAFT ENVIRONMENTAL CHECKLIST

A. BACKGROUND

- 1. Name of the proposed project:**
Seattle Public Utilities 2001 Water System Plan Update (WSP)
- 2. Name of Applicant:**
Seattle Public Utilities (SPU)
- 3. Address and telephone number of applicant and contact person:**
Judi Gladstone
SPU
710 Second Ave
Seattle, WA 98104
206/684-4642
- 4. Date checklist prepared:**
June, 2000
- 5. Agency requesting checklist:**
Seattle Public Utilities
- 6. Proposed timing or schedule (including phasing, if applicable):**

The WSP describes SPU's proposed activities and projects related to the operation, maintenance and improvement of its drinking water system infrastructure proposed for the period 2001 to 2007. The WSP is updated every 6 years.
- 7. Plans for future additions, expansion, or further activity related to or connected with this proposal:**

Any future additions, etc. will be described in the WSP Update in 2007 or in supplements to this WSP.
- 8. Environmental information that has been prepared, or will be prepared, directly related to this project:**

Environmental information has been prepared previously for several projects described in the WSP. These environmental reviews are summarized in the memorandum included as Attachment 1 to this checklist.

9. Applications that are pending for governmental approvals or other proposals directly affecting the property covered by the proposal:

Some of the individual projects described in the plan require additional approvals. Those approvals will be sought for the individual projects prior to construction or development.

10. List of governmental approvals or permits that will be needed for the proposal:

Approval of WSP by Seattle City Council, King County, and Washington Department of Health (WDOH).

11. Brief, complete description of the proposal, including the proposed uses and the size of the project and site:

Seattle Public Utilities is required by the WDOH to prepare and submit a water system plan every six years. SPU submitted a WSP in November 1993 and WDOH approved the WSP in February 1995. The 2001 WSP is an update of that plan. It maintains the policies of the 1993 WSP and provides the documentation and direction for implementing SPU's key functions. No changes to SPU's drinking water service area, sources of supply, or conservation policies are proposed in the 2001 WSP Update.

The WSP Update includes a number of major capital projects that continue the utility's current programs and direction. Many of the large capital projects included in the WSP have been identified in previous planning documents and analyzed through previous SEPA environmental impact statements. The previous environmental reviews are described in Attachment 1.

Additionally, the WSP Update includes ongoing maintenance activities such as monitoring well rehabilitations, seismic upgrades, pipeline replacements, and reservoir covering. This SEPA checklist addresses the programmatic impacts of the WSP Update, including its ongoing maintenance activities. As with most of the major capital projects, these maintenance activities will generally require supplemental project-level SEPA review prior to final design and construction.

Table 1 provides a summary of the major known maintenance and improvement projects including pipeline replacement and dam projects included in the 2001 WSP Update. The general locations of these projects are shown in Figure 1. Table 2 summarizes the remaining reservoir covering projects and their schedule. Figure 2 shows the locations of reservoirs and pump stations.

Table 1. 2001 WSP Update Major Known Maintenance Projects

Pipeline	Construction Plans
Des Moines Creek Transmission Line Relocation at SR 509	Relocate 200 feet of 24-inch transmission line at Des Moines Creek stream crossing
Landsburg Tunnel Crossing Upgrade	Cedar River crossing upgrade to prevent erosion; 200 feet of 96-inch pipe
Cedar River Watershed Bridge Replacements at Pine Creek and North Fork	Replace deteriorating bridges with permanent concrete structures
Tolt River Watershed Bridge Replacements, including Dorothy Creek	Replace deteriorating bridges with permanent concrete structures
Snoqualmie River Bank Stabilization River Mile 13.5 at Tolt Pipeline crossing	Stabilize river bank to prevent erosion damage to pipeline; armor bank with riprap
Tolt Pipeline # 1 Rehabilitation in Snoqualmie Valley near SR 203	Replace or slip-line 1-mile section at SR 203
Tolt Pipeline # 1 Rehabilitation between the Regulating Basin and Kelley Road	Install cathodic protection on a 5-mile section of pipeline
Tolt Pipeline #1 Rehabilitation between I-405 and Lake Forest Reservoir	Install cathodic protection on a 4.5-mile section of pipeline
Landsburg Dam Spillway	Add additional spillway to improve flood passage capacity

Source: SPU's Capital Improvement Plan, 2000.

Table 2. 2001 WSP Update Reservoir Covering Schedule

Reservoir	Scheduled Completion	Type of Cover
Bitter Lake	2002	Tension floating geomembrane
Lake Forest	2002	Tension floating geomembrane
Lincoln	2002	Buried cast-in-place
Beacon	2010	Tension floating geomembrane
Myrtle	2010	Not determined
Volunteer	2010	Buried cast-in-place
Roosevelt	2020	Not determined
Maple Leaf	2020	Not determined
West Seattle	2020	Not determined

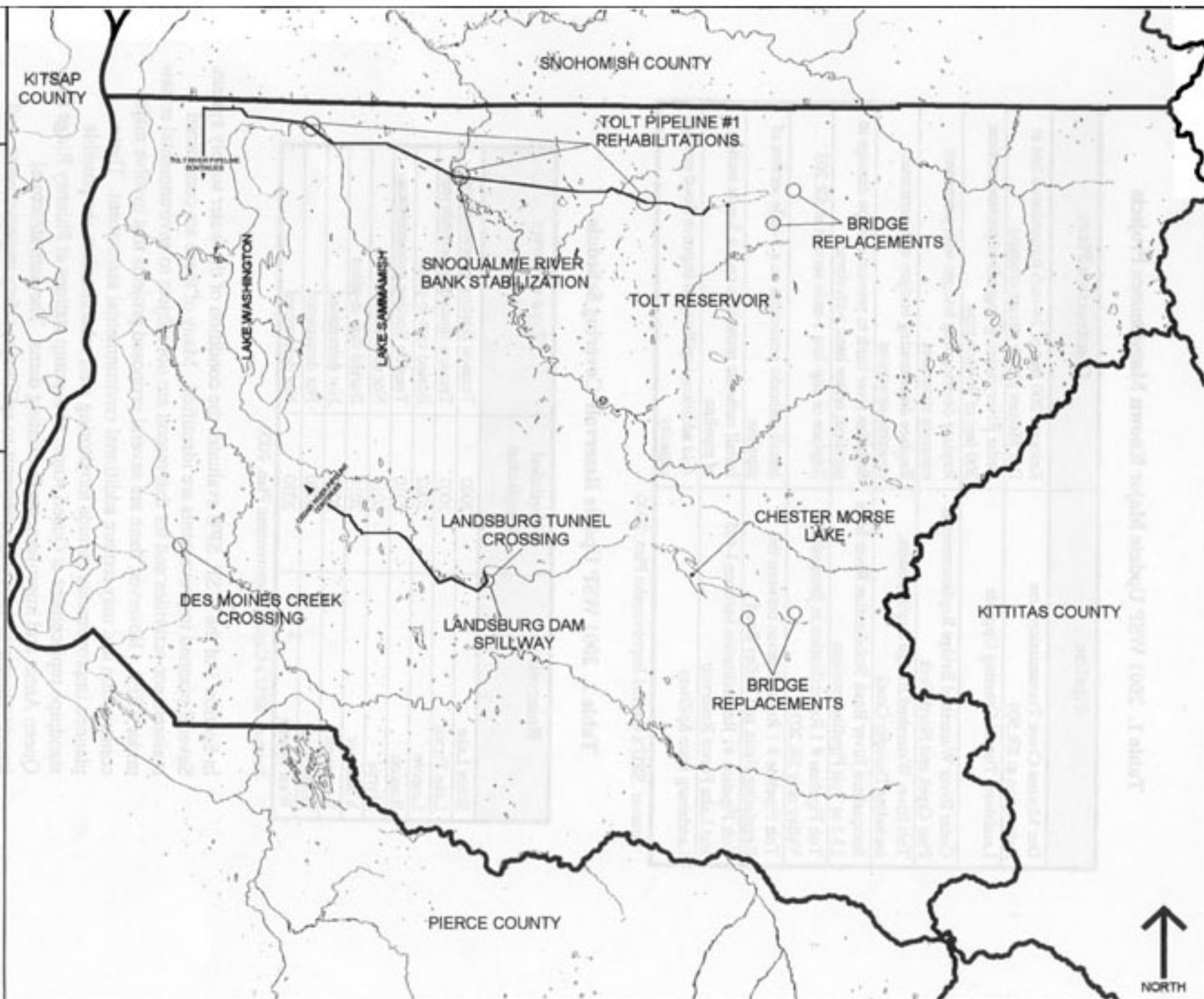
Source: SPU's Capital Improvement Plan, 2000.

In Section 3 of the WSP, SPU evaluates the condition of the water supply system. Several planned improvements are identified. Many of these are considered maintenance activities and for that reason are not subject to environmental review under SEPA. However, there are several proposed projects that involve major construction and may require additional environmental assessment. These planned improvements include monitoring well rehabilitation, the possible standpipe replacement at Queen Anne, new pump stations at Phinney Ridge and Queen Anne, and improvements to existing dams. The dam structural improvements include improvements to spillways, safety improvements, and



Source: King County GIS.

FIGURE 1.
MAJOR MAINTENANCE PROJECTS
2001 WSP UPDATE
KING COUNTY, WASHINGTON



The City
of Seattle

July 15, 2000

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of any sort implied, including accuracy,
completeness, or fitness for use.

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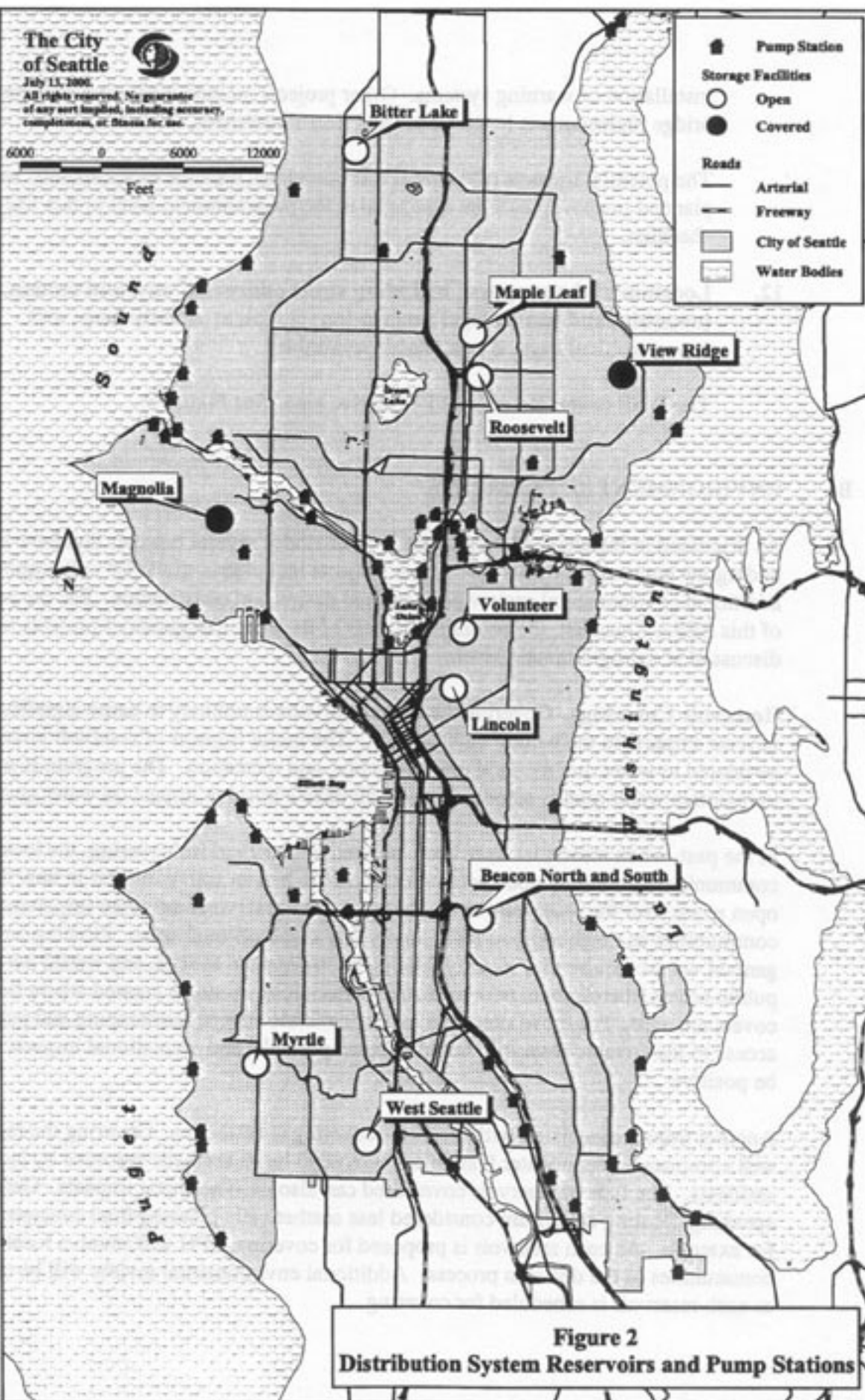


Figure 2
Distribution System Reservoirs and Pump Stations

installation of warning systems. Other projects include road improvements and bridge replacements in the Cedar and Tolt Watersheds.

The potential impacts of the reservoir coverings, pipeline replacements, and planned improvements are discussed at the programmatic level in this SEPA checklist.

12. **Location of the proposal, including street address, if any, and section, township, and range; legal description; site plan; vicinity map; and topographical map, if reasonably available:**

The WSP covers the entire SPU service area. See Figure 3.

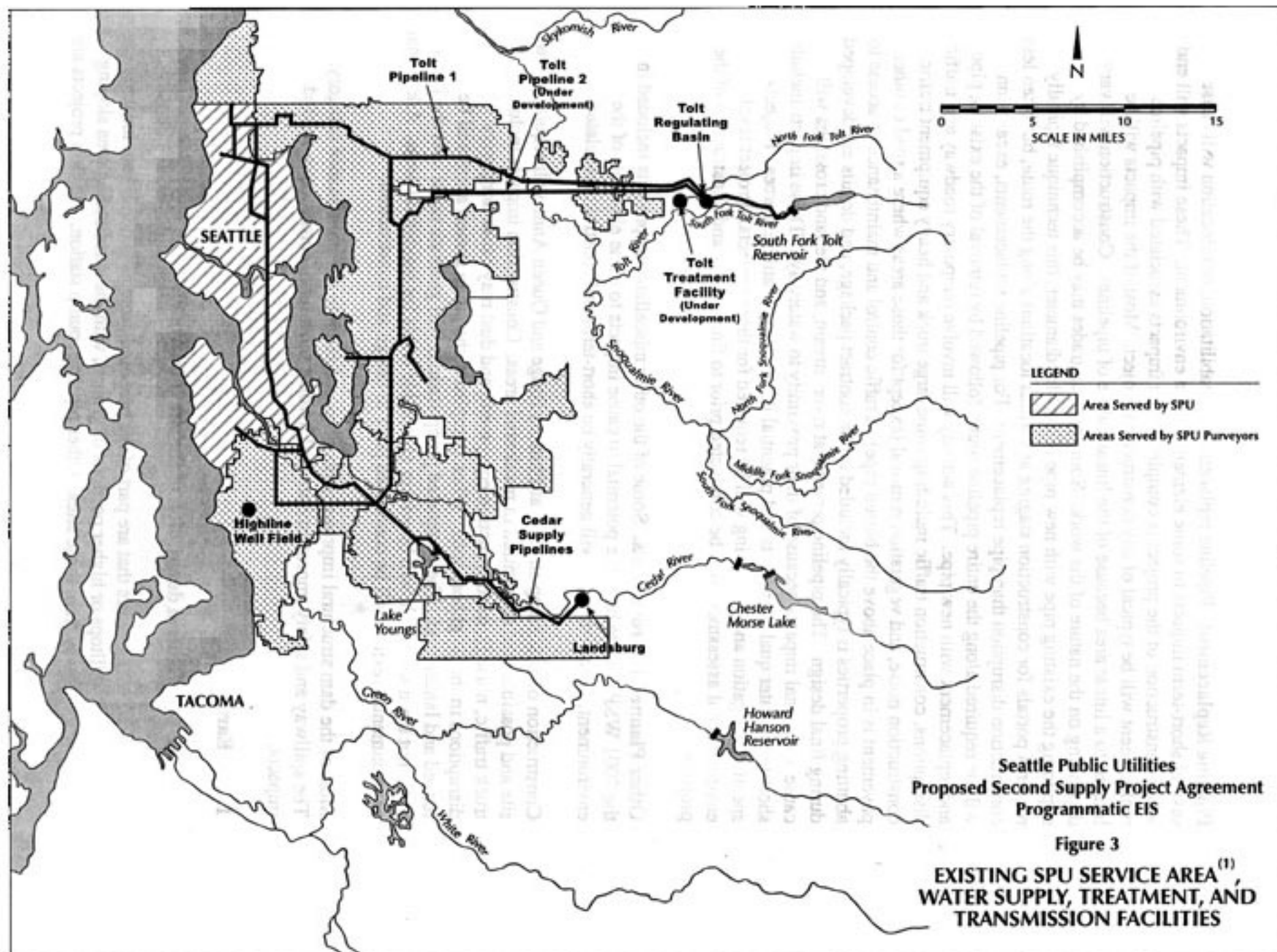
B. ENVIRONMENTAL ELEMENTS

As discussed in the attached memo, the WSP includes several projects that have already undergone environmental review. Other projects included in the WSP will require additional environmental review prior to final design and construction. For the purposes of this SEPA Checklist, the potential impacts of the three categories of projects are discussed at a programmatic level.

Reservoir Coverings. Covering the open reservoirs is unlikely to cause significant adverse impacts to the natural environment. The major impacts of reservoir covering will be related to water quality, land use, aesthetics, and recreation. The program is required to maintain water quality standards, and will have a positive impact on water quality.

In the past, when reservoirs have been covered or proposed for covering, the local community surrounding open water reservoirs has had an active interest in how the new open space over the reservoirs would be used. The reservoirs are often important to communities as neighborhood focal points and as recreational areas. Floating covers in general would require that security fencing be maintained at sites, and would not permit public access, therefore no new recreational resources would be created where floating covers are used. For those sites selected for concrete covers, landscaping and public access to the covered reservoir would become possible, and recreational impacts would be positive.

Another impact associated with reservoir covering is aesthetics. Covering the reservoirs will eliminate an open water feature considered to be an aesthetic resource by local residents. The type of reservoir cover used can also have aesthetic impacts. Generally speaking, floating covers are considered less aesthetically pleasing than concrete covers, for example. As each reservoir is proposed for covering, SPU will involve local communities in the decision process. Additional environmental review will be conducted as each reservoir is scheduled for covering.



⁽¹⁾Based on incorporated district service areas.

Pipeline Replacement. Pipeline replacement, rehabilitation, or relocation will cause several short-term impacts to some elements of the environment. These impacts will end when construction of the project is complete. The impacts associated with pipeline replacement will be typical of any construction project. Most of the impacts will be limited to a linear area because of the linear nature of pipelines. Construction will vary depending on the nature of the work. Some pipe upgrades may be accomplished by sliplining the existing pipe with new pipe of smaller diameter; this technique typically requires portals for construction staging at various locations along the route, but often less construction disruption than pipe replacement. For pipeline replacements, excavation will be required along the entire pipeline route, followed by removal of the existing pipe and replacement with new pipe. This activity will involve temporary roadway and traffic disruptions, construction traffic including some large truck and heavy equipment traffic, construction noise, and vegetation removal (except for those areas where a road or other pavement is in place above the buried pipe). Traffic control and maintenance of access to abutting properties is typically included in the contract package, and details are developed during final design. The pipeline projects at river, stream, and wetland crossings will cause additional impacts because of their proximity to waterways. These impacts include short-term water quality impacts and potential impacts to aquatic resources. Project-specific mitigation and permitting will be required for these projects. Project level environmental assessment will be conducted prior to final design and construction of the projects.

Other Planned Improvements. Some of the other miscellaneous projects included in the 2001 WSP Update have the potential to cause impacts to some elements of the environment. These impacts will generally be short-term and construction-related.

Construction of new pump stations at Phinney Ridge and Queen Anne will require a new site and possible land acquisition in residential areas. Construction impacts including truck traffic, noise from construction equipment, and dust may cause temporary disruptions in the neighborhoods. When completed, the pump station areas will be fenced and landscaped. The completed pump stations will generate noise over the long-term, but the noise levels will be within acceptable levels for residential areas. Additional environmental review will be conducted prior to design and construction.

Most of the dam structural improvements proposed fall into the maintenance category. The spillway and safety improvements will involve short-term, construction-related impacts.

1. Earth

a. General description of the site (underline):

Reservoirs that are part of the proposed projects generally are located near hilltops or higher portions of ground, with the surrounding area sloping away from these sites. Other pipeline, pump station, and dam projects are

located in varying terrain throughout the region, ranging from flat river valley areas, to ravines and hillsides.

b. What is the steepest slope on the site (approximate percent slope)?

More specific slope information will be determined during project-specific environmental review when a more precise location for each project is identified.

c. What general types of soils are found on the site (for example clay, sand, gravel, peat, muck)? Specify the classification of agricultural soils and note any prime farmland.

More specific soils information will be determined during project-level environmental review, when a more precise location for each project is identified. Soil types underlying the major known maintenance projects are generally described based on the 1973 Soil Survey of King County (USDA, SCS and Washington Agricultural Experiment Station). Soils in the eastern, mountainous portion of the County and the urbanized western area have not been mapped, so it was not possible to evaluate the soil types for the Cedar or Tolt River Watersheds, Landsburg Dam, the eastern portions of the Tolt Pipeline, or near reservoir sites.

Soils at the Des Moines Creek crossing are of the Alderwood series, the most common soil type in the King County area. These soils are formed on permeable glacial till and are moderately well drained. The soils are not well suited to cultivated agriculture. Soils at the Snoqualmie River crossing are of the Puget and Briscott series. Both are loamy soils formed on alluvium and are somewhat poorly to poorly drained. Both soil types are used for row crops and pasture. Soils in the vicinity of reservoirs and pipelines in previously developed pipeline corridors are likely to include at least partial fill.

d. Are there any surface indications or a history of unstable soils in the immediate vicinity? If so, describe.

More specific information on unstable soils will be determined during project-specific environmental review. A general description of areas of unstable soils is based on the 1990 King County Sensitive Areas Map Folio. Sensitive Areas in the eastern, mountainous portion of the County are not mapped, so it was not possible to evaluate unstable soils in the Cedar and Tolt River Watershed areas. The major known maintenance projects not previously analyzed in Environmental Impact Statements (refer to Attachment 1) are upgrades or replacements of existing facilities, and would not generally require construction in new locations.

The Landsburg Dam and Landsburg Tunnel Crossing areas are located close to a mapped erosion hazard area and seismic hazard area. The Des Moines Creek crossing is located on very steep slopes and is an erosion hazard and landslide hazard area. The Snoqualmie River crossing is located in a seismic hazard area.

In general reservoir and pump stations are not located on steep slope areas

- e. **Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate the source of the fill.**

Grade and fill quantities have not been estimated at this time. More specific information will be developed during preliminary design of the individual projects.

- f. **Could erosion occur as a result of clearing, construction, or use?**

Most reservoir covering activities would not result in any erosion. Excavation for buried reservoirs would require some excavation and could temporarily increase erosion potential. Pipeline construction activities could cause erosion on a short-term basis. Construction activities such as site clearing and grading, excavation, materials handling, and stockpiling pose the greatest potential for erosion. More detailed analyses of erosion potential, including excavation and fill volumes, would occur during project-specific review.

Once constructed, operation of the proposed facilities would not cause erosion. Some planned pipeline reconstruction projects are intended to reduce or prevent erosion damage at creek or river crossings. See Table 1.

- g. **About what percent of the site will be covered with impervious surfaces after project construction (for example buildings or asphalt)?**

Reservoir covering, pipeline replacement, and other planned improvements would not create substantial new amounts of impervious surface. Small amounts of impervious surface would be created where reservoirs are covered with concrete covers. New pump stations could also create small amounts of new impervious surface. Most projects would not create major, new areas of impervious surface that would modify existing drainage patterns or necessitate major improvements to existing drainage infrastructure.

h. Describe the proposed measures to reduce or control erosion, or other impacts to the earth, if any.

Project construction activities would employ construction-related Best Management Practices (BMPs) such as temporary erosion and sediment control measures, Surface Water Pollution Prevention Plans, and Spill Prevention Control and Countermeasures Plans. Typical BMPs that could be employed are installing filter fabric fences or hay bales; covering soil stockpiles and exposed soils; using temporary soil covers such as mulch or grasses; diverting storm water away from exposed soils through the use of berms; and use of settling ponds or grass lined swales to prevent sediment from moving into water courses, open ditches, and storm drains. Other measures could include the following:

- Avoid excessive clearing and grading;
- Limit the extent and areas of excavation and other earthwork activities near surface waters and wetlands;
- Designate personnel to inspect and maintain temporary erosion and sediment control measures;
- Store materials away from surface waters and wetlands;
- Refuel construction equipment and vehicles away from surface waters and wetlands whenever practicable;
- Maintain spill containment and clean up material at active construction sites;
- Contain equipment and vehicle wash water associated with construction and keep it from draining into surface waters and wetlands;
- Use gravel pads or other appropriate means to minimize tracking of sediment onto public roadways by construction vehicles;
- Install temporary erosion and sediment control measures prior to site clearing and grading activities;
- Employ temporary slope protection (e.g., straw mulch);
- Restore disturbed areas by replanting or repaving as soon as practical after construction is completed;
- Limit the timing of construction to the dry season or to WDFW fisheries windows of those project elements that are located near or in sensitive areas such as wetlands and riparian corridors;
- Implement dewatering plans where ground water is encountered to control the release of sediment-laden water to the environment; and
- Revegetate disturbed areas with species that provide good wildlife habitat where appropriate.

More detailed temporary erosion and sediment control measures would be identified during project-specific environmental review. Erosion control

and slope stabilization measures would be implemented as required by permitting jurisdictions.

2. Air

- a. What types of emissions to the air would result from the proposal (e.g. dust, automobile, odors, industrial, wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities, if known.**

Most air quality impacts associated with the WSP Update would be short-term in nature and associated with construction activities, mainly pipeline construction. Typical construction concerns include dust from excavation and exhaust from construction vehicles and equipment. In general, concern about air quality impacts during construction would be greatest in the vicinity of residential neighborhoods, and around sensitive receptors such as schools, parks, or hospitals.

In general, reservoir covering would not generate any air quality impacts unless excavation is required for burying. Excavation could temporarily impact users of public open spaces in the vicinity of these reservoirs. New pump stations and dam improvements would be highly localized and temporary and are not expected to generate any air quality impacts.

- b. Are there any off-site sources of emissions or odors that may affect your proposal? If so, generally describe.**

Off-site sources of odor would not affect the proposed projects.

- c. Describe proposed measures to reduce or control emissions or other impacts to air, if any**

General construction practices to limit air quality impacts would be implemented, and would be identified in greater detail during project-specific environmental review. Construction adjacent to schools, parks, and high-density residential areas would receive particular attention. Examples of mitigation measures include: spraying areas of exposed soil with water for dust control; regular street cleaning; cleaning truck wheels and undercarriages prior to exiting construction sites; and reducing exhaust emission by minimizing vehicle idling. Construction and staging areas for different locations should be combined where feasible to reduce construction-related air quality impacts.

3. Water

a.

Surface:

- 1. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, and wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.**

The projects would occur in or around a variety of artificial reservoirs and natural surface waters. See Table 2 for a list of reservoirs. Pipeline construction would occur in the vicinity of the Cedar River, Snoqualmie River, Tolt River, their tributaries, and Des Moines Creek. The Cedar, Tolt, and Snoqualmie Rivers are Type 1 waters, while Des Moines Creek is a Type 2 stream. The Tolt River drains to the Snoqualmie River, the Snoqualmie River drains to the Snohomish River system, the Cedar River to Lake Washington, and Des Moines Creek directly to Puget Sound.

- 2. Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

Yes. All work around reservoirs would require work in or immediately adjacent to these artificial water bodies. Water crossings will be required for projects on the Tolt, and Cedar Rivers; and Des Moines Creek.

- 3. Estimate the amount of fill and dredge material that could be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill materials.**

Dredge and fill quantities have not been estimated at this time. More specific information will be developed during preliminary design of the individual projects. The proposed creek or river crossings could require in-water work, but tunneling technology that would avoid open trench excavation would be explored during design development of the projects. Slip-lining is planned for the rehabilitation of Tolt Pipeline # 1 at the Snoqualmie River. If open-trench crossing methods were to be used for any other crossings, some excavation and fill would occur to install and backfill the pipeline, and to restore the riverbed to its original profile. Restoration of fish habitat conditions could also require backfill.

- 4. Will the proposal require surface water withdrawals or diversion? Give general description, purpose, and approximate quantities, if known.**

These projects are proposed as a component of SPU's WSP Update. The system delivers potable surface and ground water to the Seattle service area's retail and wholesale customers. The status of existing water rights is described in some detail in the WSP Update. No additional water rights are being requested, and no new water withdrawals will be required for water supply purposes. Water withdrawals have been analyzed during previous environmental review. See attached technical memo.

It is possible that some pipeline replacement projects will require temporary diversion of surface water. If required, such diversions will be minimized by project design, and will be performed according to the conditions of any required permits. Conditions typically imposed on projects requiring in-water work include avoidance of periods of fish migration, minimization of turbidity, and restoration to preexisting conditions.

- 5. Does the proposal lie within a 100-year flood plain? If so, note location on the site plan.**

Portions of the Snoqualmie River, the Cedar River, the Tolt River, and Des Moines Creek are located in 100-year floodplains.

- 6. Does the proposal involve discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

The projects would not result in the discharge of any waste materials to surface waters. Maintenance activities include occasional flushing of pipes, that generally discharges water into the local stormwater conveyance facility, but can also discharge potable water to the environment. In cases where potable water cannot be discharged to a stormwater pipe, SPU's standard practice is to neutralize chlorine, adjust incompatible pH, and discharge in a manner and rate to minimize turbidity to meet water quality standards prior to discharges.

b. Ground

- 1. Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.**

The system delivers potable surface and ground water to the Seattle service area's retail and wholesale customers. Some temporary dewatering could be required for reservoir burial or pipeline construction. Dewatering could be required for the Snoqualmie River bank stabilization project and the Tolt pipeline rehabilitation projects. Dewatering will also occur at the Landsburg Tunnel crossing upgrade 200 to 300 feet downstream of the diversion dam. Water from dewatering would be returned to surface water or groundwater, or properly treated and disposed of to the environment or off-site if necessary.

- 2. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any. Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) is expected to serve.**

No waste material will be discharged into the ground.

c. Water Runoff (including storm water)

- 1. Describe the source of runoff (including storm water) and method of collection and disposal, if any (including quantities if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

Sedimentation and erosion resulting from pipeline construction could occur. Sediment-laden water could flow directly or indirectly to aquatic systems such as wetlands, streams, and rivers. Sediments could be deposited on roadways adjacent to construction sites, which then could be transported to surface waters or the local storm drainage system during rainfall events. The greatest potential for erosion and sedimentation that could result in unacceptable water quality impacts exists in the vicinity of streams and rivers where pipeline relocation, rehabilitation or bridge construction is proposed along the Snoqualmie River, the Cedar River, the Tolt River, their tributaries, and Des Moines Creek. Localized increased turbidity in nearby surface waters could occur, but these impacts will be of short duration and efforts will be made

to minimize them during construction. Some temporary erosion and turbidity also could occur within the immediate vicinity of dams.

Project construction activities would comply with the stormwater management requirements of the permitting jurisdictions.

3. Could waste materials enter ground or surface waters? If so, generally describe.

The projects do not include discharging waste material of any kind into ground or surface waters, although construction related material could find its way into ground or surface waters due to accidental spills, mechanical failures, or if construction activities deviate from the project construction contract specifications or permit conditions.

d. Describe proposed measures to reduce or control surface, ground, and runoff water impacts, if any.

Project construction activities would employ temporary erosion control measures described in Section B.1.h. or as dictated by local permitting jurisdictions. All necessary permits and approvals would be obtained, and additional detail regarding surface and ground water protection measures developed during project-specific environmental review. Surface Water Pollution Prevention Plans and Spill Prevention Control and Countermeasures Plans would be included where applicable. Spill prevention and control measures would also be included in project designs for each future project.

Measures to prevent/reduce the groundwater impacts could include the following:

Exercise of environmental due diligence, and groundwater/soil sampling in several areas along the project corridor near potential sources of contamination, if any are identified during project planning and design;

Having a hazardous materials site remediation specialist on the construction site when construction is taking place near those areas to identify any contaminants that may be encountered; and

Requirements in the project's construction contract specifications addressing appropriate remediation, and proper handling and disposal of any contaminated soil or groundwater encountered.

Measures to avoid or control ground settlement due to construction dewatering could include:

- Limit dewatering to the area and depth necessary for construction; and
Monitor settlement along project corridor.

4. **Plants**

a. Types of vegetation found on site:

Vegetation throughout the project area consists of a variety of upland, riparian, and wetland vegetation types. Urban vegetation includes mowed lawn, native and introduced grasses, native and non-native deciduous and coniferous trees, and occasional shrubs. Turf and ornamental shrubs dominate around reservoir sites. Both urban and semi-natural to natural vegetative schemes exist along developed pipeline corridors, and in the vicinity of dams, although some unmaintained riparian vegetation occurs near creek and river pipeline crossings.

b. What kind and amount of vegetation will be removed or altered?

The proposed projects would require minimal clearing of vegetation. Reservoir covering projects would require little to no alteration or removal of vegetation. Some vegetation removal could be required in the vicinity of pipeline corridors, new pump stations, or dam improvements, but clearing amounts would be small, localized, and largely limited to urban-type vegetation. Some small amounts of riparian vegetation could be altered in the vicinity of the Snoqualmie River, Cedar River, the Tolt River, and Des Moines Creek.

c. List threatened or endangered species or critical habitat known to be on or near the site.

There are no known threatened, endangered, or sensitive plant species in the vicinity of the proposed projects at this time. Searches of databases of known listed plant species will be conducted during project-specific environmental review. Due to the urban nature of the project area and the history of disturbance around existing developed facilities, no threatened or endangered plant species are expected to occur.

d. Describe proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on site.

Removal of vegetation would be kept to a minimum at those sites where excavation is necessary. Site design characteristics of all proposed above ground structures would include a landscaping element. Use of native plants would be considered where appropriate.

5. **Animals**

- a. **Underline any birds and animals which have been observed on or near the site or are known to be on or near the site: See above**

Fish: bass, salmon, trout, herring, shellfish, other

Amphibians: frogs, salamanders, other

Reptiles: lizards, snakes, turtles, other

Birds: hawks, heron, eagle, songbirds, ducks, other

Mammals: deer, bear, elk, beaver, other

- b. **List any threatened or endangered species or critical habitat near the site.**

The project area contains a variety of listed threatened and endangered species including bald eagle, chinook salmon, bull trout, and others. Reservoirs generally are located in urban areas where listed species are not likely to be found. Some proposed pipeline projects and bridge constructions near the Cedar River, Snoqualmie River, Tolt River, their tributaries, and Des Moines Creek could impact listed chinook salmon in these waters through sedimentation and alterations of riparian or instream habitat. For pipeline rehabilitations or replacements, impacts would be temporary and construction-related. More detailed analysis of potential impacts would occur during project-specific review of each project. Chinook salmon use of the Cedar, Snoqualmie, and Tolt Rivers for spawning and rearing has been documented. Bull trout are known to occur in the Snoqualmie and Tolt Rivers and in the Cedar River above Chester Morse Lake. The mouth of Des Moines Creek is located in a known migration corridor for chinook along the Puget Sound shoreline.

- c. **Is the site part of a migratory route? If so, explain.**

Surface waters in the project area, including the Snoqualmie, Tolt, and Cedar Rivers and the Puget Sound shoreline at the mouth of Des Moines Creek, are used by both adult and juvenile salmonids for migration. A variety of neotropical birds and waterfowl species also pass through the area during seasonal migrations north and south.

d. Proposed measures to preserve or enhance wildlife, if any.

Areas impacted by construction would be revegetated once construction is completed, and native and/or exotic ornamental plants would be incorporated into new facility landscaping on a site specific basis in keeping with the existing conditions and the nature of the surrounding landscapes.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Diesel fuels would be required to power machinery during construction activities. However, the amount of energy required will be minimal. Electricity is likely to be used for operation of pump stations and other project facilities once each project becomes operational, with diesel generation available as emergency backup. There is presently adequate energy available for construction and operation of the projects.

b. Would the project affect the potential use of solar energy by adjacent properties? If so, explain.

The proposed projects are not tall structures and would not interfere with any solar energy resources on any of the adjacent properties.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

Though the projects generally would incorporate energy-efficient design features, no energy conservation measures are proposed other than the use of energy-efficient construction equipment.

7. Environmental Health

- a. **Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spills, or hazardous waste that could occur as a result of this proposal? If so, describe.**

The proposed projects are not expected to have any adverse impacts on environmental health. In general, all of the proposed improvements are included to protect public health or to reduce environmental impacts from ongoing operations. There is a potential for soil/water remediation if contaminated sites are located during project design or encountered during excavation for project facilities.

Reservoir covers have been proposed to protect water quality in SPU's distribution systems, thereby reducing environmental health risks.

Improvements to existing dams would be conducted to increase operational safety of these systems. No adverse environmental health impacts would occur.

1. **Describe special emergency services that might be required.**

No special emergency service will be required once the projects are completed.

2. **Describe proposed measures to reduce or control environmental health hazards.**

Any necessary chemical storage and distribution equipment for the protection of water quality and public health would be designed to meet required safety and environmental provisions, including secondary containment, leak detectors, alarms, and vents.

In addition, protocols for the handling of potentially hazardous materials during construction would be further evaluated during project-specific environmental review to minimize environmental health hazards.

- b. **Noise**

1. What types of noise exist in the area which may affect your project (for example: traffic, equipment operation, other)?

In general, ambient noise levels are relatively high throughout the project area due to its heavily urbanized nature. Noise levels do vary from site to site, with rural and wildland areas, and residential neighborhoods being the quietest areas and commercial/industrial areas the loudest. Traffic sounds are the major source of noise, and background traffic noise levels are highest along major arterials and highways where the highest traffic volumes are found. The most sensitive receptors typically include schools, hospitals, parks, and other places of public congregation.

2. What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)?

On a short-term basis, noise from heavy construction equipment will be generated at construction sites. Noise levels could reach as high as 90 decibels (dBA) for short periods of time within 50 feet of the noise source. Noise associated with clearing and excavation typically falls within the 84 to 88 dBA range. Trucks used to haul excavated fill will also temporarily increase noise along haul routes.

Potential noise impacts are primarily associated with surface excavation along pipeline routes and in the vicinity of reservoirs. Construction is likely to cause temporary noise disturbance to adjacent residents and park/public open space users.

Long-term noise impacts will be minimal. Occasional maintenance vehicle trips to the site are likely; however, noise impacts from these trips will not be significant. Pump stations in residential areas have the potential to create potential long-term noise impacts. Noise level restrictions in residential areas in Seattle are 55 dBA during the day and 45 dBA at night. SPU's procedure is to comply with noise restrictions by locating pumping stations underground where feasible, by enclosing and muffling pumping facilities, or by installing noise attenuation equipment.

3. Describe proposed measures to reduce or control noise impacts, if any.

All construction work would be performed in compliance with the applicable local noise ordinances, except where additional restrictions are necessary. Options to minimize noise impacts from construction may include:

- Noisy operations may be scheduled to minimize their duration;
- Internal combustion engines can be equipped with mufflers;
- Noisy portable equipment, such as generators, compressors, or pumps, can be located as far away from sensitive noise receptor areas as possible;
- Noise barriers can be constructed around stationary construction equipment that must be located near sensitive noise receptors; and
- Equipment can be turned off when not in use.

Prior to the start of construction, SPU will coordinate construction activities with business operations, institutions, and residents within the project corridor that may be sensitive to construction-related noise, dust, or traffic.

Potential long-term impacts will be assessed as part of project level review where necessary. Noise levels associated with pump stations in residential neighborhoods will comply with City of Seattle noise regulations. Noise levels could be mitigated by locating stations underground, by enclosing and muffling equipment, or by installing noise attenuating equipment.

8. Land and Shoreline Use

a. What is the current use of the site adjacent to the properties?

The projects are situated in areas with a range of land uses. Reservoirs are located generally in landscaped open spaces or in parks, with surrounding residential development. Pump stations are generally located in residential or commercial areas. Pipelines are located in a variety of locations, from densely urban to rural.

b. Has the site been used for agriculture? If so, describe.

Most of the project vicinity has not been recently used for agriculture. Portions of eastern King County are currently used for agriculture.

c. Describe any structures on the site.

Reservoir facilities include a secured, lined reservoir structure and associated pumping and maintenance facilities. There are generally no aboveground facilities associated with pipelines.

d. Will any structures be demolished? If so, what?

In general, the projects under review are of an ongoing maintenance or replacement nature, and will not require demolition of structures. It is possible that demolition will be required if new pump stations are needed in locations with limited available space; these projects will receive more detailed environmental review when siting and design efforts begin.

d. What is the current zoning classification of the site?

Zoning around reservoirs and pump stations is predominantly residential, while zoning in the vicinity of pipelines ranges from residential and commercial to more rural residential, agriculture, and forest designations.

e. What is the current comprehensive plan designation of the site?

Comprehensive plan designations vary depending on the location of the specific project. The maintenance and replacement projects included in the WSP Update are by their nature addressing facilities that are already in place, rather than new facilities.

f. If applicable, what is the current shoreline master program designation of the site?

Shoreline designations vary depending on the location of specific projects included in the WSP Update. Designations for specific projects will be evaluated when exact project locations are known. Designations for the shorelines crossed by major projects were obtained from the King County Shoreline Master Program. The Snoqualmie River crossing area, the South Fork Tolt River, the Cedar River and the North Fork Cedar River are all designated Conservancy. Des Moines Creek is not a large enough stream to be covered by the state's Shoreline Management Act, and thus does not have shoreline designations.

g. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

In general, construction would not occur in sensitive areas. Relocation or rehabilitation of pipelines in the vicinity of the Snoqualmie River, Cedar River, Tolt River, or Des Moines Creek, and bridge replacements in the Cedar and Tolt River Watersheds, could occur in sensitive riparian buffers and floodplains. The King County Sensitive Areas Map Folio indicates wetlands are located near the Snoqualmie River crossing. Other wetland areas may be located near projects. Sensitive areas would be identified during project-specific environmental review, and all impacts avoided or mitigated in compliance with local sensitive areas regulations, as well as applicable state and federal permitting requirements.

Reservoirs and pump stations are generally not located in sensitive areas, although some are located close to wetland areas.

h. Approximately how many people would reside or work in the completed project?

The proposed projects would not create any additional residences. After completion, project maintenance would continue at existing levels, requiring no new staffing.

i. Approximately how many people would the completed project displace?

Most of the maintenance and upgrade projects will be at locations of existing facilities, and will not displace residents. Construction of new pump stations may require displacement of residential or commercial uses.

j. Describe proposed measures to avoid or reduce displacement impacts, if any.

New pump station locations will be selected to minimize displacement impacts. Independent appraisers would appraise the property to determine fair market value. Other federal and state guidelines for relocation assistance would be followed where displacement is necessary.

k. Describe proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

All components of the proposed projects will be constructed in compliance with applicable local zoning codes and ordinances. All areas excavated for construction will be restored to pre-construction conditions (e.g. repaved or revegetated).

9. Housing

- a. **Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.**

No housing units will be provided by the proposed project.

- b. **Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.**

Most of the maintenance and upgrade projects will be at locations of existing facilities, and will not displace housing units. Construction of new pump stations may require displacement of residential or commercial uses. The number of displacements will be determined when project-level environmental and design work begins.

- c. **Describe proposed measures to reduce or control housing impacts, if any.**

New pump station locations will be selected to minimize displacement impacts. Independent appraisers would appraise the property to determine fair market value. Other federal and state guidelines for relocation assistance would be followed where displacement is necessary.

10. Aesthetics

- a. **What is the tallest height of any of the proposed structure(s), not including antennas? What is the principal exterior building material(s) proposed?**

The proposed projects would not require any new buildings and minimal new structures. New structures would include pump stations, reservoir covers, and buried pipelines.

- b. **What views in the immediate vicinity would be altered or obstructed?**

Construction of all facilities would result in short-term aesthetic impacts. Because most projects are limited in scope, impacts would be highly localized.

The most substantial aesthetic impacts would be associated with reservoir covering activities. Some reservoirs provide visual amenities for users and surrounding residential neighborhoods. Open water would be replaced by geomembranes or concrete covers, replacing views of open water with these structures. In some cases, reservoirs may be buried, with open water

views replaced by landscaping. Where appropriate, detailed analysis of aesthetic and other environmental impacts will be prepared for each reservoir covering project, as preliminary design efforts begin. Refer to the discussion at the beginning of this environmental checklist (Response A. 11, Project Description, and introductory text under Section B, Environmental Elements) for additional information about the reservoir covering projects.

c. Describe proposed measures to reduce aesthetic impacts, if any.

Mitigation could include selecting cover colors where possible to blend with the surrounding environment or additional landscaping to provide a visual buffer between the covered reservoir and viewers as partial compensation.

11. Light and Glare

a. What type of light and glare will the proposal produce? What time of day would it mainly occur?

No significant amounts of glare will be produced. Minimal new lighting will be provided for any of the proposed projects. Any necessary lighting will be highly localized and will not affect adjacent properties.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Safety hazards from project facilities are not anticipated. Minimal new lighting will be provided.

c. What existing off-site sources of light or glare may affect your proposal?

The proposed projects will not be affected by any off-site sources of light and glare.

d. Describe the proposed measures to reduce or control light and glare impacts, if any.

No light and glare impacts are expected. Therefore, no mitigating measures are proposed.

12. Recreation

- a. **What designated and informal recreational opportunities are in the immediate vicinity?**

The project area contains a variety of parks, trails, and open spaces offering passive and active recreational opportunities. Reservoirs are located throughout more urban portions of the project area and some provide aesthetic benefit and open areas for a variety of recreational activities. The Cedar River, Snoqualmie River, Tolt River, and Des Moines Creek provide recreational benefits in the form of trails, water-based activities such as fishing and boating, and nature observation. Pipeline right-of-ways provide informal recreation opportunities as trail corridors for pedestrian, bike, and equestrian users.

- b. **Would the proposed project displace any existing recreational uses? If so, describe.**

No recreational uses will be directly displaced by the project. Construction activities may indirectly affect recreation by increasing noise and dust, and by temporarily altering traffic patterns and visual quality. Public open spaces around reservoirs and trail corridors along pipeline rights of way are likely to experience the greatest impact. Some temporary restrictions of access to these areas may be required during construction and/or covering activities (see Tables 1 and 2). Upon completion, reservoir covers could have an aesthetic impact on recreation users by replacing open water views with floating geomembranes or concrete covers. Buried reservoirs may increase recreational opportunities compared to existing conditions, while floating covers will maintain existing recreational opportunities.

- c. **Describe proposed measures to reduce or control impacts on recreation, including recreational opportunities to be provided by the project or applicant.**

Mitigation could include use of landscaping and native vegetation, and exploration of opportunities for joint use of pipeline rights-of-way and trails. Public information efforts could inform the public of disruption to normal use of reservoir and pipeline right of way corridors during construction. Safety measures could include separation of the public from construction activities.

13. Historic and Cultural Preservation

- a. **Are there any places or objects listed on or eligible for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.**

No places or objects listed or eligible for national, state, or local preservation registers are known to exist on or near the project sites. During project-level environmental review, information available at the State Historic Preservation Office will be researched to identify potential sites of historic or cultural resource significance.

- b. **Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site.**

See above

- c. **Describe proposed measures to reduce or control impacts, if any.**

In keeping with SPU's policies and the City of Seattle's SEPA policy related to archaeological and historic resources, a thorough records search will be conducted to identify potential historic or cultural activities or resources on or near the project sites.

In the event that potential cultural resources are discovered during subsurface excavations at the site, work will be suspended immediately. Artifacts uncovered would be evaluated by a professional archaeologist or historian before construction in the area of discovery is allowed to resume.

14. **Transportation**

- a. **Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.**

There are a wide variety of streets in the Seattle portion of the project area including Interstates 5 and 405 (I-5 and I-405), arterials, and local streets. Reservoirs are generally located in residential portions of Seattle, while dams are located in rural and/or undeveloped portions of eastern King County.

- b. **Is the site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?**

See above

- c. **How many parking spaces would the completed project have? How many would the project eliminate?**

See above

- d. **Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe.**

No new public roads or streets are proposed as part of this project. Restoration would occur where excavation cuts through street surfaces.

Construction impacts may include temporary detours, lane closures, and diversions during roadway excavation. Some on-street parking may be temporarily displaced by construction, and access to some properties may be partially blocked. The magnitude of impacts is generally a function of construction duration, amount of street disturbance, and existing volumes of traffic.

- e. **Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

See above.

- f. **How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.**

Workers and the delivery of construction equipment to the sites will generate most traffic. Project construction would result in short-term disruption of normal traffic flow. Construction activities affecting traffic would primarily be truck trips to and from active construction sites.

Construction is expected to occur during daytime working hours. Nighttime or weekend work is not anticipated.

Once construction is completed, there will be no new operational transportation impacts. Minor amounts of traffic disturbance may occur for facility maintenance, but maintenance activities will have little effect on traffic flow.

- g. **Describe proposed measures to reduce or control transportation impacts, if any.**

SPU would coordinate with the appropriate local jurisdictions to develop construction plans that address traffic control within their respective

jurisdictions. These plans would include temporary barricades, cones, warning signs, flaggers, lights, detours, and other safeguards as necessary. Regular vehicular traffic will be maintained to the greatest extent possible at all locations. In some cases, traffic will be restricted through temporary lane closures, but traffic flow will not be completely blocked. In areas of high traffic volume, construction could be limited during peak a.m. and p.m. commute hours. Project contractors will develop a construction traffic flow scheme that provides a selected transportation route for hauling materials, equipment, or products.

15. Public Services

- a. **Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally explain.**

The proposed projects would not require any additional fire, police, health care, schools, or other public services.

- b. **Describe proposed measures to reduce or control direct impacts on public services.**

None necessary.

16. Utilities

- a. **Underline utilities currently available at the site:**

A variety of utilities are available throughout the project area including electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic systems, and other.

- b. **Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

The projects are in themselves utility projects and would not require additional utilities.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Judi Gladstone Date: July 14, 2000

Signature: Jay Lutz Date: July 14, 2000

ATTACHMENT 1

MEMORANDUM



Environmental Solutions

To: Judi Gladstone/SPU
Jay Laughlin/SPU
Greg Kirmeyer/EES
Brian Murphy/EES

From: Lloyd Skinner/Adolfson Associates
Dave Wortman/Adolfson Associates

May 26, 2000

2001 WSP Update SEPA Review

Introduction

This memorandum contains a preliminary overview of the potential environmental impacts associated with SPU's proposed 2001 Water System Plan (WSP) Update. The 2001 WSP Update is being prepared in response to the Washington State Department of Health (WDOH) requirement that utilities prepare and submit a water system plan every six years. In 1993, SPU submitted its last WSP update to WDOH, which approved that WSP in 1995. The 1993 update focused on the following issues:

- Compliance with changing mandates of the Safe Drinking Water Act to ensure protection of public health;
- Strategies to meet the demands of a growing regional population;
- Increasing competition for available water supplies, particularly from instream needs such as water for fish;
- The need to work more closely than in the past with other governments and agencies in the region; and
- Aging infrastructure in need of repair, replacement or enhancement.

The proposed 2001 WSP Update is largely a stay-the-course plan for SPU. As noted in the preliminary draft 2001 WSP Update, the plan is intended to be a summary picture of the manner in which SPU is fulfilling its mission and obligations as a public water utility. The 2001 WSP Update deviates little from the 1993 WSP Update, and all of the major capital projects in the 2001 Update have been identified in previous planning documents and analyzed through previous SEPA environmental impact statements (EISs). These projects and previous SEPA and NEPA documents are described in greater detail later in this memo.

ADOLFSON ASSOCIATES, INC. 5309 Shilshole Avenue NW, Suite 200 Seattle, WA 98107

Tel 206 789 9658 Fax 206 789 9684

SEPA Background

Completion of environmental review in accordance with the State Environmental Policy Act (SEPA) is required prior to adoption of the 2001 WSP Update. The SEPA "proposal" is adoption by the Seattle City Council of the 2001 WSP Update. To complete the SEPA process, SPU must determine whether the proposal is likely to have significant adverse effects on the environment. If significant adverse effects are anticipated, an EIS should be prepared; if the effects are not likely to be significant, a "determination of nonsignificance" can be issued and the proposal can proceed without a more extensive EIS process. To assist SPU in making its threshold determination, Adolfson has prepared a draft SEPA environmental checklist. This memorandum is intended to be an attachment to the SEPA checklist.

The City Council's decision on the 2001 WSP update is a "nonproject action," i.e., a decision on a policy, plan, or program (WAC 197-11-704). State and City of Seattle SEPA rules both permit phased review of a proposal, when it proceeds from a nonproject level to a more project-specific level. This phasing allows agencies and the public to focus on issues that are ready for decision, while excluding from consideration issues that have been decided or are not yet ready for evaluation.

The SEPA rules also allow previous SEPA environmental analyses and related technical information to be incorporated by reference into current SEPA work to avoid duplication of effort. SPU and the former Seattle Water Department have conducted extensive prior environmental review, for ongoing policies and programs as well as for several of the major projects included in the 2001 WSP Update. This previous documentation can be incorporated by reference into SEPA review for the 2001 WSP Update. Appropriate supplemental environmental review for individual projects that implement the plan can then be prepared at a project-specific level.

Previous Environmental Review

The following section discusses many of the major SEPA and, where applicable, National Environmental Policy Act (NEPA) analyses that have been completed for major projects identified in the 2001 WSP Update.

1985 Seattle Water Department COMPLAN Draft EIS. This document was a programmatic EIS on the Seattle Water Department's 1985 COMPLAN. The 1985 COMPLAN included both structural and non-structural components for meeting supply, treatment, and distribution needs. This EIS also noted that further SEPA review would be prepared before final implementation of the major projects identified in the EIS. Short-term projects identified in this EIS at a programmatic level included:

- The Highline Well Field;
- Tolt River Pipeline Well Field;
- Cedar Well Fields;
- Tacoma Intertie (addressed as a reliability measure scheduled for 1995);

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Tel 206 789 9658 Fax 206 789 9684

- Management in the Cedar River Watershed;
- Water quality and treatment (hypochlorite prototype facility); and
- Conservation programs.

Long-term projects included:

- Cedar Storage Phase I;
- North Fork Tolt Dam;
- System improvements (Tolt East Side Supply Line, Des Moines Way Pipelines, Tolt River Pipeline No. 2);
- Watershed Management; and
- South Fork Tolt Treatment Plant.

1993 Comprehensive Regional Water Supply Plan SEPA EIS. In 1993, the Seattle Water Department prepared a non-project SEPA EIS to identify alternatives and disclose potential environmental impacts associated with the 1993 WSP Update. The preferred policy alternative identified by the 1993 update favored conservation measures, provided adequate water supply to minimize the need for outdoor water restrictions, allowed pumping in Morse Lake during shortage periods, and provided the ability to meet commitments to expand the service area under conditions that emphasize conservation. Additional sources of supply identified in this plan included the Highline Recharge Wells, South Fork Filtration Plant, North Fork Tolt Diversion, and Morse Lake Permanent Pumping. Specific projects evaluated in the EIS include:

- North Fork Tolt River Diversion;
- South Fork Tolt filtration;
- Morse Lake Permanent Pumping Plant;
- Tolt Well Field (6 wells);
- Highline Recharge Wells;
- Chittenden Locks Rehab; and
- A variety of conservation measures.

The Draft EIS notes that many of the projects in the 1993 WSP Update were evaluated during previous environmental studies. For example, the Morse Lake Temporary Pumping Plant #2 EIS documented the environmental impacts to the Cedar River Watershed under drought conditions that could occur as a result of emergency pumping. Similarly, the Tolt Filtration Plant Draft EIS outlined the environmental impacts associated with that project, while the Tolt Pipeline #2 Phase I EIS addressed standards for water purity. Finally, the Lake Youngs Supply Line #4 EIS addressed the impacts associated with that project.

The 1993 WSP Update included an extensive discussion on the relationship of service area expansion to regional growth. The Update noted, "The recommended planning and service area policy allows, but does not require, the department to expand its service area. The policy acknowledges the relationship between water supply and growth by establishing a condition that requires service area expansion to be compatible with land use and comprehensive plans developed and adopted by appropriate local or regional authorities" (p. 4-66).

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Tel 206 789 9658 Fax 206 789 9684

Tolt Pipeline No. 2, Phases II and III SEPA EIS. This EIS was a supplement to the Tolt Eastside Supply Line No. 2 Final EIS prepared by the Seattle Water Department and the City of Redmond in 1988. The original EIS examined construction of the pipeline in two phases. Phase 1 was built and began operation in 1990. Phases 2 and 3 were examined in the 1988 EIS, but were re-examined because of the changing regulatory conditions and new environmental information. These phases consist of one line extending east from the City of Redmond, from east of SR 202 to just east of SR 203 (east of the Snoqualmie River).

Cedar Water Treatment Facility SEPA EIS. This EIS evaluates the construction and operation of an ozonation plant for SPU's Cedar River water supply. The plant is needed to meet the requirements of SPU's binding agreement with WDOH to ensure that water from the Cedar River meets all current and reasonably anticipated water quality regulations, and to address taste and odor issues in the Lake Youngs Reservoir.

The project is proposed for a 360-acre forested parcel in the northeast section of the Lake Youngs Reservation. The facility would occupy up to 35 acres and would consist of water treatment, storage, and operations facilities. The Final EIS for the project was issued in April 2000. An EIS addendum is likely to be issued to describe the final aspects of the proposal.

Proposed Second Supply Project Agreement SEPA EIS. SPU has proposed that the City of Seattle enter into the Second Supply Project Agreement with Tacoma Public Utilities (TPU), the City of Kent, the Covington Water District, and the Lakehaven Utility District. The agreement would result in development of the main branch and north branch of Tacoma's Second Supply Pipeline to provide water from Tacoma's second water right on the Green River to customers of TPU, SPU, and the south King County utilities party to the agreement. The proposed agreement also addresses water allocation and storage, mutual aid in emergencies, and conservation resources in TPU's service area to be used by SPU to benefit fish. The agreement would increase SPU's firm yield from 171 mgd to 185 mgd.

Alternatives examined in the EIS include No Action, Cedar Permanent Dead Storage, Lake Youngs Drawdown, South Fork Tolt Additional Drawdown, North Fork Tolt Diversion, Snoqualmie Aquifer Development with interconnection to SPU's Tolt pipeline, and additional conservation beyond SPU's currently-planned one percent conservation initiative. The proposed agreement is one of the means of implementing some of the resource selection and water system policies and guidelines identified in the 1993 WSP Update.

The EIS evaluates, on a non-project level, potential impacts to water rights; threatened, endangered, and sensitive species; wildlife habitat; zoning consistency; growth; and related plans and policies. At this time, a Draft EIS has been published, and a Final EIS is in preparation. SEPA compliance for this project will not be completed until issuance of the Final EIS (and resolution of appeals, if any).

Cedar River Watershed Habitat Conservation Plan NEPA EA/SEPA EIS. SPU has developed a Habitat Conservation Plan (HCP) for the City of Seattle's Cedar River Watershed to allow incidental take of federally listed threatened and endangered species as provided under Section 10 of the Endangered Species Act. SPU issued a final programmatic SEPA EIS/NEPA EA for

ADOLFSON ASSOCIATES, INC. 5309 Shilshole Avenue NW, Suite 200 Seattle, WA 98107

Tel 206 789 9658 Fax 206 789 9684

issuance of an incidental take permit in May 1999. The City has recently received an incidental take permit from the U.S. Fish and Wildlife Service and National Marine Fisheries Service. The permit allows take of endangered species incidental to otherwise lawful management activities in the watershed. Activities covered by the HCP include drinking water supply operations, management of forest resources, and hydroelectric power generation. The EIS examines the environmental impacts of forest management activities, improvements of fish passage and water use efficiency at Chittenden Locks, and instream flows in the Cedar River. Impacts to forests, water quality, fish, threatened and endangered wildlife, cultural resources and timber volume are disclosed.

Tolt Pipeline #2 Phase IV. Development of two additional phases of the Tolt 2 Pipeline is recommended in the 2001 Draft Update. Phase IV of the Tolt Pipeline # 2 has had prior SEPA review, which concluded with a Mitigated Determination of Nonsignificance.

Other Issues

Service Area. According to the preliminary draft 2001 WSP Update, SPU's wholesale water customers are experiencing substantially more rapid population growth than its retail customers. SPU's contractual commitment to meet water needs for wholesale customers extends to each purveyor's current and possible future service areas. Three utilities in the fastest growing areas of King County have recently arranged or are arranging to obtain water from SPU's regional water system. These utilities are Issaquah, Covington, and the Sammamish Plateau. In 1999, Issaquah signed an agreement with Bellevue under SPU approval to obtain water from the Seattle regional system. Covington signed a contract directly with SPU in 1999. The Sammamish Plateau Water and Sewer District is still in the process of obtaining additional water. Several other utilities could become wholesale customers in the future.

The 2001 WSP Update notes that all of these utilities are part of the service area defined in the 1980 and 1985 WSPs. Each of these utilities is also identified in the 1993 WSP as being interested in SPU planning to meet their demands, and as part of the "possible future service area." In addition, all of these utilities are part of the service area defined in SPU's "place of use" descriptions for the South Fork Tolt River, or the Cedar River and Highline Well field water claims. This information indicates that no changes to SPU's service area boundary are anticipated in the 2001 WSP Update, and therefore there are no previously undisclosed environmental impacts for the purposes of SEPA review.

Reservoir Covering. The 2001 Plan Update includes continued implementation of the City's Reservoir Cover Plan (1995). The Bitter Lake, Lake Forest Park, and Lincoln reservoirs are proposed to be covered by 2002, while the remaining uncovered reservoirs are scheduled for covering between 2010 and 2020. Each reservoir project will undergo project-level SEPA review prior to final decisions and start of construction. The SEPA environmental checklist for the 2001 WSP Update addresses the reservoir covering program at the more general level appropriate for a nonproject action.

Covering the City's open reservoirs for treated drinking water is consistent with the increased emphasis that the Washington Department of Health (DOH) and the U. S. Environmental Protection Agency (EPA) are placing on maintenance of water quality in distribution systems. It is also consistent with strong trends elsewhere in the state and nation towards the elimination of uncovered reservoirs in distribution systems. Accordingly, the main environmental impact associated with the program is water quality, and the program has clearly positive water quality benefits. Other impacts relate to the type of cover selected; the choice of floating, lightweight structural, or concrete cover determines the extent of recreation and aesthetic impacts and the amount and duration of construction. While the final choice of cover type may be an important concern for the local community, the significance of the choice from a strictly environmental perspective is much narrower.

The choice of reservoir cover is not likely to have significantly adverse impacts on recreation. The reservoirs are currently fenced and closed to public access. A floating cover will likely continue to require fencing, and will thus essentially maintain the existing recreational opportunities, while a concrete cover or new underground reservoir could expand opportunities for recreation at the site and have positive impacts on recreation.

The choice of cover type will have aesthetic impacts. A concrete cover will allow landscaped plantings and public access, while a floating cover will be arguably less appealing to look at. At this time, the type of cover to be constructed at each reservoir is not determined. SPU proposes to work with the neighborhood to achieve the best balance of community values and cost impacts to the public at each reservoir site. The type of cover will be determined during the project-level outreach and design process for each reservoir.

SPU's program goal is to cover the City's remaining open reservoirs over the next twenty years. While the significance of aesthetic impacts is admittedly a difficult issue to quantify, SPU's decision-makers must assess whether the reservoir program is likely to create significant adverse aesthetic impacts. Project-level SEPA review can provide more detailed site-specific analysis to quantify such issues as number of homes from which the reservoir is visible, and extent of individual view changes.

Pipeline Replacements. The 2001 WSP Update includes maintenance of the system's infrastructure, including pipeline replacements where warranted. In general, these maintenance projects will include trenching and replacing in the same location, or in some cases slip-lining, existing pipelines. Construction activities are the main environmental impact. Several of the projects will require work on large pipelines, such as the Cedar or Tolt pipelines. In one case, a relocation of a pipeline crossing Des Moines Creek is required, while another project includes river bank stabilization on the Snoqualmie River to prevent erosion damage to a transmission line. At the policy level, the construction impacts of a maintenance program that upgrades and replaces existing pipelines would not appear to create significant adverse impacts or warrant development of policy alternatives. Again, project-level review may indicate that alternatives such as construction techniques, timing of construction, or relocations could reduce impacts.

Summary

Table 1 summarizes the major components of the Draft 2001 WSP Update, and indicates where the impacts of each component have been addressed in prior SEPA and/or NEPA documents. As the table demonstrates, all major supply projects have completed previous SEPA review. Miscellaneous activities proposed in the Draft Update, such as monitoring well rehabs, seismic upgrades, pipeline replacements, and reservoir covering, have not specifically been addressed in prior EIS documents. The SEPA environmental checklist for the Draft Update provides programmatic review of these activities.

Conclusions

SPU has developed an extensive record of previous SEPA and NEPA environmental analysis for projects identified in the draft 2001 WSP Update. The draft Update does not appear to propose major new capital projects, new sources of supply, or new policy directions that would generate significant adverse environmental effects. Maintenance activities have not been addressed during previous SEPA review. At the policy level, there are limited alternatives to ongoing maintenance, but these maintenance activities do generate impacts of their own. Future project-level SEPA review will help quantify these impacts and assist in determining whether they warrant more detailed review in an Environmental Impact Statement.

This memorandum has been prepared to advise SPU Executive Management and Directors of the status and direction of SEPA review of the 2001 WSP Update, and to gain feedback on its appropriateness.

Table 1. Projects Included in Draft 2001 WSP Update and Previous Environmental Documentation

Programs/Projects Included In 2001 WSP Update	1993 Water Supply Plan SEPA EIS	1985 COMPLAN SEPA EIS	Tolt Pipeline No. 2 SEPA EISs (and MDNS on Phase IV)	Cedar River HCP NEPA EA/SEPA EIS	Second Supply Project SEPA EIS	Cedar Water Treatment Facility SEPA EIS
<i>New Supply</i>						
Second Supply Project/TSI		X			X	
Cedar Permanent Dead Storage	X	X			X	
Lake Youngs Drawdown					X	X
South Fork Tolt Additional Drawdown					X	
Tolt Pipeline # 2: two additional phases			X			
North Fork Tolt Diversion	X	X			X	
Snoqualmie Aquifer					X	
<i>Maintenance Activities</i>						
Cedar Treatment Facility, Lake Youngs						X
Miscellaneous Maintenance Activities: rehabilitate monitoring wells, spillway/dam improvements, Warning System improvements, covering nine distribution reservoirs, seismic upgrades, pipeline replacements/ relocations, new booster pump stations.						

ADOLFSON ASSOCIATES, INC. 5309 Shilshole Avenue NW, Suite 200 Seattle, WA 98107

Tel 206 789 9658 Fax 206 789 9684

Programs/Projects Included In 2001 WSP Update	1993 Water Supply Plan SEPA EIS	1985 COMPLAN SEPA EIS	Tolt Pipeline No. 2 SEPA EISs (and MDNS on Phase IV)	Cedar River HCP NEPA EA/SEPA EIS	Second Supply Project SEPA EIS	Cedar Water Treatment Facility SEPA EIS
<i>Demand Management/Source Protection</i>						
Increased Wholesale Customer Demand: Issaquah, Covington, Sammamish Plateau, Water District 111, North Bend, Salal, and Ames Lake.	X (except North Bend, Salal, and Ames Lake)	X				
Conservation (no new programs)	X	X			X	
Enhanced Conservation Measures					X	
Aquifer Storage and Recovery- Highline Well Field	X					
Source Water Protection: Cedar River, Tolt River, Highline Wells		X		X		

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